The Study of Development and Application of Medical Technology from the Perspective of Ethics: Comments on Medical Ethics

Shuguang Han[1*], Xiangqin Han[2], Wei Chen[3], Yang Yuxi[4], Li Chen[5], Jinping Han[6]

[1]School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

[2]People's Hospital of Yexian, Pingdingshan, Henan, China

[3]Reproductive Hospital Affiliated of Shandong University, Jinan, China

[4]Sichuan Technological Exchange Center, Chengdu, Sichuan, China

[5]Nancheng Junior Middle School, Yuncheng County, Heze City, Shandong Province, China

[6]Maozhai Primary Schoolof Cuiqiao, Fugou, Henan Province, China

Keywords: Medical ethics, Medical technology, Development, Application measures, Research.

Abstract: With the continuous application and development of medical high technology, the medical work has achieved remarkable results, thus effectively improving the physical fitness and health of residents. Under the background of the accelerated development of medical science and technology, the ethical problems gradually exposed by medical staff and patients have become the main factors restricting the development of medical undertakings .The emergence of medical ethics provides a good opportunity for medical work, which is conducive to standardizing the daily behavior of medical staff and speeding up the development of medical care. Therefore, based on medical ethics, this paper studies the status quo of medical science and technology development from the perspective of ethics, and then puts forward the application measures of medical technology.

1. Research background

1.1 Literature review

The rapid development of computer technology has promoted the transformation of medical data from traditional paper forms to electronic application models. Informatization of medical technology promotes the steady development of medical care.By analyzing the current situation of medical data mining, Liu Chanzhen and Wang Youjun elaborated on the key methods of medical data mining from clustering, classification and prediction, and effectively promoted the application and development of medical technology (Liu and Wang, 2014). In recent years, the speed of science and technology development in China has accelerated significantly, and virtual reality technology is an emerging medical technology derived from computer technology.Wu Yiqiang studied the application of virtual reality technology in medical technology and proposed specific application measures to effectively promote the development of medical technology (Wu, 2016). At this stage, terahertz science and technology has been widely used in the scientific community, and its application in the medical field has also attracted the attention of the majority of residents.Qi Na et al., by analyzing the application and research progress of terahertz science and technology in the medical field, and exploring the problems encountered, can point the way for future medical technology development (Qi, 2013). In the context of the constant application and popularization of computers, medical information processing methods play a crucial role. The application of computers in medical information processing not only realizes the accuracy and accuracy of medical data, but also promotes the application process of computer technology in related fields (Wei, 2015).

  DOI: 10.25236/medsbe.2019.020

1.2 Purpose of research

Medical ethics belongs to the national medical professional ethics education textbook, which has been included in the national eleventh five-year national planning textbooks for higher education. It is conducive to cultivating the professional ethics of medical college students, standardizing professional ethical behaviors and enhancing students' The ability to understand and discern medical ethics. The development of medical science and technology provides a convenient method for medical education in colleges and universities, and creates a good environment for the teaching of college teachers. At present, most scholars are studying the development of medical science and technology from the background of information technology. In the field of ethics, there is relatively little literature on the development and application of medical science and technology, which is not conducive to applied research in the medical field. Therefore, this paper plays an important role in the development and application of medical science and technology in the field of ethics.

2. An overview of medical ethics theory

As a relatively old subject, medical ethics has accompanied the medical ethics in ancient medical applications. But for the field of research, medical ethics is a young discipline that has evolved into a system of theoretical systems through evolution (Wei et al, 2017). At present, in the related field, a professional academic research group has been set up specifically for medical ethics, and medical theory has been deeply studied (Xu, 2017). As we all know, at the moment of the rapid development of science and technology, medical ethics has gradually become an indispensable part of the development of modern medical theory. It plays an important role in the field of medical theory research and clinical trials, laying a good foundation for the development of medical science and technology. basis.

At present, relevant colleges and universities have used medical ethics as a teaching material and applied it in practical teaching. In the actual teaching process, through the teacher's explanation of medical ethics, students' understanding and application of medical ethics gradually realize the requirements of educational institutions for the cultivation of students' excellent professional ethics. Based on medical ethics, the cultivation of students' professional ethics is mainly to identify students' ability to discriminate between right and wrong, and to prepare qualified personnel for the medical career of the motherland. Moreover, medical ethics is a related scholar, studying a lot of domestic and foreign research professional ethics education content, and through the exploration of papers, combined with practical teaching experience, and then integrated into a theoretical subject. In the field of education, medical ethics conducts in-depth research and discussion on some key points and difficulties in the current medical field, and proposes solutions according to different problems, and gradually becomes an innovative research result in the medical field.

3. Current status of medical science and technology development

With the progress and development of society, science and technology have been widely used in various fields. In medicine, the application of emerging technologies will not only improve medical infrastructure conditions, but also help improve medical standards. China's medical science and technology has experienced a stage of development from scratch, from the simple medical environment and equipment, to the present, forming a professional medical team and equipment system. In this process, technology plays a vital role.

The application of high technology in the medical field has led to the gradual refinement of bioinformatics measurement technology and the more accurate diagnosis of some diseases. And with the help of related technology, the characteristics of the wound can be detected quickly and accurately, which has a typical effect on clinical medicine and drug treatment. With the help of science and technology, some brain tumors and cardiovascular and cerebrovascular diseases have been gradually weakened and made significant contributions to human health protection.

At this stage, along with the application of science and technology in different medical fields, the

influence of the “double-edged sword” of science and technology has gradually become prominent, not only for social development, but also for the technology itself. Moreover, the application of science and technology in clinical medicine has gradually had a significant impact on doctors and patients from the aspects of medical technology, psychology and ethics, which has brought certain impacts to traditional medical models. For example, the application of technology may cause medical genetic pollution, and cloning technology triggers social ethics, etc., so that the social problems reflected may have adverse effects on the normal development of human beings. At the same time, along with the development of science and technology, medical expenses have also increased, prompting some patients to understand the problem gradually. However, among the relevant medical institutions, due to the emergence of high-tech products and equipment, the mobility of some medical personnel has gradually declined, and work enthusiasm has gradually been wiped out. Moreover, these problems are in the organization, and it is difficult to see that according to the performance of medical personnel or patients, it is generally a hidden influence, resulting in an inability to communicate effectively with relevant personnel, and a series of extreme events occur. Therefore, from the perspective of ethics, based on medical ethics, the correct application of science and technology in the field of medicine, and the correct role of science and technology in the development of medical technology, the role of science and technology plays an important role in the future development of the medical field.

4. Application measures of medical science and technology in the field of ethics

4.1 Innovative medical technology application model

The application of medical science and technology is mainly based on the transformation of scientific achievements. It does not provide a good infrastructure for the organization, and it can also provide a personalized consultation place for relevant personnel, which is conducive to speed up the transformation of medical results. Relevant personnel of medical institutions should actively learn from and draw on the successful experiences of some emerging technologies based on advanced foreign technology. Then, combined with the specific facts of this institution, considering the characteristics of different scientific and technological achievements, and innovating the application mode of medical technology, it is conducive to improving and perfecting the functions and technologies of related science and technology in the medical field. In the specific implementation process, we should start from the government, hospitals, universities, enterprises and scientific research personnel to provide special application funds for medical technology applications, establish a sound application program, and then vigorously promote the transformation of medical science and technology achievements. In addition, after the application is established, the relevant agencies should establish corresponding pilot departments to determine the feasibility of the process by conducting trial runs on the relevant processes, and then improve the application efficiency of the medical technology application model.

4.2 Fully tap the subject of medical research and innovation

Relevant institutions should follow the principles of science, importance, innovation and feasibility, and gradually explore innovative medical research topics from the advantages of the industry, that is, start from improving the quality of medical research topics, and then improve the quality of medicine. Before excavating medical research and innovation topics, relevant personnel should conduct a large number of research through sufficient market and patent investigations, and conduct research on relevant literatures at home and abroad, and then conduct comparative analysis to propose feasible medical research topics. In the process of excavating medical research and innovation topics, we should put forward some medical science and technology achievements transformation management system that can be relied upon and ruled by combining the characteristics of foreign medical achievements, and then generate medical research innovation topics to provide complete fields for related fields. The theoretical reference is conducive to promoting the application of relevant science and technology to relevant personnel.

4.3 Improve the management system for the transformation of medical institutions' results

A sound results management system can not only create a good medical work environment, but also regulate the daily behavior of relevant personnel. In the ethics field of view, with the relevant theoretical knowledge of medical ethics, the relevant knowledge points are distributed in different medical links, and the management level of medical institutions is improved from different aspects. At the same time, we should use the basic knowledge of medical ethics to form a practical and feasible management system, and establish effective links with medical staff and patients, and gradually improve the corresponding regulatory requirements through actual research. At the same time, relevant personnel should form a set of feasibility reports by analyzing relevant conversion factors in the process of medical science and technology achievements conversion, laying the foundation for later patent applications. After the completion of the transformation of medical science and technology achievements, it should actively apply for patents through relevant channels to improve the patent authorization rate in the medical field. After the patent is granted, the relevant personnel should analyze the preferential policies provided by the government and some institutions, make full use of the preferential policies and the corresponding technology sharing platform, conduct research and study, and strive to obtain the support of some risk funds and enterprises, thereby accelerating the medical research results in China. The conversion rate increases the level of application of relevant science and technology in the medical field.

Acknowledgements

This research is financed by “Double-first-class” construction research funds of UESTC “Evaluating procedure Construction and Evaluating Mechanism exploration of Biomedical Research Ethics Review in UESTC(SYLYJ2019208);

This research is financed by Fundamental Research Business Expenses in Central Universities research funds of UESTC(Humanities and Social Sciences) “ Evaluating procedure Construction and Evaluating Mechanism exploration of Investigation and Analysis on the Present Situation of Biomedical Research Ethics Review in UESTC(ZYGX2019J131).

References

[1] Liu C.Z., Wang Y.J.(2014). Medical Data Mining Technology and Application Research, Journal of Biomedical Engineering,31(5), 1182-1186.

[2] Wu Y.Q.(2016). Development and Application of Virtual Reality Technology in Medicine, China New Communications,18(12), 94-94.

[3] Qi N., Zhang Z.Y., Xiang Y.H.(2013). Application of terahertz technology in medical detection and diagnosis, Spectroscopy and Spectral Analysis,33(8), 2064-2070.

[4] Wei G.P.(2015). Application of Computer Technology in Medical Information Processin, Computer programming skills and maintenance,20(24), 15-16.

[5] Wei R., Ma F., Hou M.W., et al.(2017). Application of Artificial Intelligence in Medical Education, Research and Practice of Medical Education,36(25), 838.

[6] Xu F.X.(2017). Breakthrough the bottleneck of difficult and severe treatment with medical science and technology innovation, Capital Food and Medicine,24(1), 36-37.